



SUBSTITUTE SEQUENCE LISTING

<110> Thibeault, Diane  
Lamarre, Daniel  
Maurice, Roger  
Pilote, Louise  
Pause, Armin

<120> Purified Active HCV NS2/3 Protease

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ctt gca ctc ttg acc ttg tca cca tac tat aaa gtg ctc ctc gct agg 96  
Leu Ala Leu Leu Thr Leu Ser Pro Tyr Tyr Lys Val Leu Leu Ala Arg  
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ctc ata tgg tgg tta cag tat tta atc acc aga gtc gag gcg cac ttg 144  
 Leu Ile Trp Trp Leu Gln Tyr Leu Ile Thr Arg Val Glu Ala His Leu  
 35 40 45

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caa gtg tgg atc ccc cct ctc aat gtt cgg gga ggc cgc gat gcc atc 192
Gln Val Trp Ile Pro Pro Leu Asn Val Arg Gly Gly Arg Asp Ala Ile
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atc ctc ctc acg tgc gca gtc cac cca gag cta atc ttt gac atc acc 240  
 Ile Leu Leu Thr Cys Ala Val His Pro Glu Leu Ile Phe Asp Ile Thr  
 65 70 75 80

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aaa ctc ctg ctc gcc ata ttc ggt ccg ctc atg gtg ctc cag gca ggc  288
Lys Leu Leu Leu Ala Ile Phe Gly Pro Leu Met Val Leu Gln Ala Gly
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ata acc aaa gtg ccg tac ttc gtg cgt gcg cag ggg ctc att cgt gcg	336
Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile Arg Ala	
100 105 110	

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Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln Met Ala			
115	120	125	
ttc atg aag cta gct gcg ctg aca ggt acg tac gtt tat gac cat ctc			432
Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His Leu			
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act cca ttg cag gat tgg gcc cac gcg ggc cta cga gac ctt gca gtg			480
Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala Val			
145	150	155	160
gcg gta gag ccc gtc atc ttc tct gac atg gag gtc aag atc atc acc			528
Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile Ile Thr			
165	170	175	
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Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly Leu Pro			
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gtc tcc gct cga agg gga agg gag ata ctc ctg gga ccg gcc gat aat			624
Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala Asp Asn			
195	200	205	
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Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ser			
210	215	220	
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Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly			
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cgg gac aag aac cag gtc gag ggg gag gtt caa gtg gtc tcc acc gct			768
Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala			
245	250	255	
aca caa tct ttc ctg gcg acc tgc gtc aac ggc gtg tgg act gtc			816
Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val			
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ttc cat ggc gcc tca aag acc ttg gcc ggc ccc aaa ggc cca atc			864
Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile			
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Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala			
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Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg			
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ggc gac agt agg ggg agc ctg ctc tcc ccc agg cct gtc tcc tac ttg			1056 Gly
Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu			
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Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val																																																																																																													
355	360	365		ggc atc ttc cgg gct gct gtg tgc acc cgg ggg gtt gca aaa gcg gtg	1152	Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val		370	375	380		gac ttc ata cct gtt gag tct atg gaa act acc atg cgg act agt agc	1200	Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg Thr Ser Ser		385	390	395	400	gct tgg cgt cac ccg cag ttc ggt ggt taa	1230	Ala Trp Arg His Pro Gln Phe Gly Gly *		405		<210> 2		<211> 409		<212> PRT		<213> HCV		<400> 2		Met Asp Arg Glu Met Ala Ala Ser Cys Gly Gly Ala Val Phe Ile Gly		1	5	10	15	Leu Ala Leu Leu Thr Leu Ser Pro Tyr Tyr Lys Val Leu Leu Ala Arg		20	25	30		Leu Ile Trp Trp Leu Gln Tyr Leu Ile Thr Arg Val Glu Ala His Leu		35	40	45		Gln Val Trp Ile Pro Pro Leu Asn Val Arg Gly Gly Arg Asp Ala Ile		50	55	60		Ile Leu Leu Thr Cys Ala Val His Pro Glu Leu Ile Phe Asp Ile Thr		65	70	75	80	Lys Leu Leu Leu Ala Ile Phe Gly Pro Leu Met Val Leu Gln Ala Gly		85	90	95		Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile Arg Ala		100	105	110		Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln Met Ala		115	120	125		Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His Leu		130	135	140		Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala Val		145	150	155	160	Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile Ile Thr		165	170	175		Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly Leu Pro		180	185	190		Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala Asp Asn	
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Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val																																																																																																													
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195

200

205

Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ser  
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Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly  
 225 230 235 240

Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala  
 245 250 255

Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val  
 260 265 270

Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile  
 275 280 285

Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala  
 290 295 300

Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser Asp  
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Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg  
 325 330 335

Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu  
 340 345 350

Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val  
 355 360 365

Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val  
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 Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile Arg  
 20 25 30

gct tgc atg ttg gtg cg a a g c t g c g g g g t c a t g c a a a t g	144
Ala Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln Met	
35 40 45	
gcc ttc atg a a g c t a g c t g a c a g g t a c g t t t a t g a c c a t	192
Ala Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His	
50 55 60	
ctc a c t c c a t t g c a g g a t t g g c c a c g g c g c t a c g a c c t t g c a	240
Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala	
65 70 75 80	
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Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile Ile	
85 90 95	
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Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly Leu	
100 105 110	
c c c g t c t c g c t c g a a g g g a g g a g g a t a c t c t g g g a c c g g c g a t	384
Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala Asp	
115 120 125	
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Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr	
130 135 140	
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Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr	
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Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr	
165 170 175	
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Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro	
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Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln	
210 215 220	
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Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser	
225 230 235 240	
g a c c t c t a t t g g t c a c g a g a c a t g c c a c g g t c a t t c c g g t g g c g c c g	768
Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg	
245 250 255	
c g g g g c a c a g t a g g g g a c c t g c t c t c c a g g c c t g c t c t a c	816
Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr	
260 265 270	

ttg aag ggc tct tcg ggt ggc cca ctg ctc tgc cct tcg ggg cac gct	864																																																																																																												
Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala																																																																																																													
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Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala																																																																																																													
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gtg gac ttc ata cct gtt gag tct atg gaa act acc atg cgg act agt	960																																																																																																												
Val Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg Thr Ser																																																																																																													
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Ser Ala Trp Arg His Pro Gln Phe Gly Gly Lys Lys Lys Lys *																																																																																																													
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Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile Arg																																																																																																													
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Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala																																																																																																													
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Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr																																																																																																													
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180	185	190																																																																																																											
190																																																																																																													

Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro  
195 200 205

Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln  
210 215 220

Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser  
225 230 235 240

Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg  
245 250 255

Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr  
260 265 270

Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala  
275 280 285

Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala  
290 295 300

Val Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg Thr Ser  
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35 40 45  
His Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu  
50 55 60  
Ala Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile  
65 70 75 80  
Ile Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly  
85 90 95  
Leu Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala  
100 105 110  
Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala  
115 120 125  
Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu  
130 135 140  
Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser  
145 150 155 160  
Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp  
165 170 175  
Thr Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly  
180 185 190  
Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp  
195 200 205

Gln Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser  
210 215 220

Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg  
225 230 235 240

Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser  
245 250 255

Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His  
260 265 270

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Leu Gln Tyr Leu Ile Thr Arg Val Glu Ala His Leu Gln Val Trp Ile  
35 40 45

Pro Pro Leu Asn Val Arg Gly Gly Arg Asp Ala Ile Ile Leu Leu Thr  
50 55 60

Cys Ala Val His Pro Glu Leu Ile Phe Asp Ile Thr Lys Leu Leu Leu  
65 70 75 80

Ala Ile Phe Gly Pro Leu Met Val Leu Gln Ala Gly Ile Thr Lys Val  
85 90 95

Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile Arg Ala Cys Met Leu Val  
100 105 110

Arg Lys Ala Ala Gly Gly His Tyr Val Gln Met Ala Phe Met Lys Leu  
115 120 125

Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His Leu Thr Pro Leu Gln  
130 135 140

Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala Val Ala Val Glu Pro  
145 150 155 160

Val Ile Phe Ser Asp Met Glu Val Lys Ile Ile Thr Trp Gly Ala Asp  
165 170 175

Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly Leu Pro Val Ser Ala Arg  
180 185 190

Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala Asp Asn Phe Glu Gly Gln  
195 200 205

Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg  
210 215 220

Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn  
225 230 235 240

Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe  
245 250 255

Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val Phe His Gly Ala  
260 265 270

Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr  
275 280 285

Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala  
290 295 300

Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val  
305 310 315 320

Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg  
325 330 335

Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser  
340 345 350

Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg  
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Val Trp Ile Pro Pro Leu Asn Val Arg Gly Gly Arg Asp Ala Ile Ile  
35 40 45

Leu Leu Thr Cys Ala Val His Pro Glu Leu Ile Phe Asp Ile Thr Lys  
50 55 60

Leu Leu Leu Ala Ile Phe Gly Pro Leu Met Val Leu Gln Ala Gly Ile

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Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln Met Ala Phe			
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Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His Leu Thr			
115	120	125	
Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala Val Ala			
130	135	140	
Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile Ile Thr Trp			
145	150	155	160
Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly Leu Pro Val			
165	170		175
Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala Asp Asn Phe			
180	185		190
Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ser Gln			
195	200	205	
Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg			
210	215	220	
Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr			
225	230	235	240
Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val Phe			
245	250		255
His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr			
260	265		270
Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro			
275	280		285
Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu			
290	295	300	
Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg Gly			
305	310	315	320
Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys			
325	330		335
Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly			
340	345		350
Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp			
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Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg			
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Asp Ile Thr Lys Leu Leu Ala Ile Phe Gly Pro Leu Met Val Leu  
35 40 45  
  
Gln Ala Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu  
50 55 60  
  
Ile Arg Ala Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val  
65 70 75 80  
  
Gln Met Ala Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr  
85 90 95  
  
Asp His Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp  
100 105 110  
  
Leu Ala Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys  
115 120 125  
  
Ile Ile Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser  
130 135 140  
  
Gly Leu Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro  
145 150 155 160  
  
Ala Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr  
165 170 175  
  
Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser  
180 185 190  
  
Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val  
195 200 205  
  
Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys  
210 215 220  
  
Trp Thr Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys  
225 230 235 240  
  
Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly  
245 250 255  
  
Trp Gln Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly  
260 265 270  
  
Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val  
275 280 285

Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val  
290 295 300

Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly  
305 310 315 320

His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala  
325 330 335

Lys Ala Val Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg  
340 345 350

<210> 14

<211> 341

<212> PRT

<213> HCV

<400> 14

Val Arg Gly Gly Arg Asp Ala Ile Ile Leu Leu Thr Cys Ala Val His  
1 5 10 15

Pro Glu Leu Ile Phe Asp Ile Thr Lys Leu Leu Leu Ala Ile Phe Gly  
20 25 30

Pro Leu Met Val Leu Gln Ala Gly Ile Thr Lys Val Pro Tyr Phe Val  
35 40 45

Arg Ala Gln Gly Leu Ile Arg Ala Cys Met Leu Val Arg Lys Ala Ala  
50 55 60

Gly Gly His Tyr Val Gln Met Ala Phe Met Lys Leu Ala Ala Leu Thr  
65 70 75 80

Gly Thr Tyr Val Tyr Asp His Leu Thr Pro Leu Gln Asp Trp Ala His  
85 90 95

Ala Gly Leu Arg Asp Leu Ala Val Ala Val Glu Pro Val Ile Phe Ser  
100 105 110

Asp Met Glu Val Lys Ile Ile Thr Trp Gly Ala Asp Thr Ala Ala Cys  
115 120 125

Gly Asp Ile Ile Ser Gly Leu Pro Val Ser Ala Arg Arg Gly Arg Glu  
130 135 140

Ile Leu Leu Gly Pro Ala Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu  
145 150 155 160

Leu Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly  
165 170 175

Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly  
180 185 190

Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys  
195 200 205

Val Asn Gly Val Cys Trp Thr Val Phe His Gly Ala Gly Ser Lys Thr  
210 215 220

Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	Thr	Gln	Met	Tyr	Thr	Asn	Val	Asp
225					230				235					240	
Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	Pro	Pro	Gly	Ala	Arg	Ser	Met	Thr
						245			250					255	
Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	Leu	Tyr	Leu	Val	Thr	Arg	His	Ala
							260		265				270		
Asp	Val	Ile	Pro	Val	Arg	Arg	Arg	Gly	Asp	Ser	Arg	Gly	Ser	Leu	Leu
							275		280				285		
Ser	Pro	Arg	Pro	Val	Ser	Tyr	Leu	Lys	Gly	Ser	Ser	Gly	Gly	Pro	Leu
							290		295				300		
Leu	Cys	Pro	Ser	Gly	His	Ala	Val	Gly	Ile	Phe	Arg	Ala	Ala	Val	Cys
							305		310		315			320	
Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Ile	Pro	Val	Glu	Ser	Met
							325		330				335		
Glu	Thr	Thr	Met	Arg											
				340											

<210> 15

<211> 292

<212> PRT

<213> HCV

<400> 15

Ala	Gln	Gly	Leu	Ile	Arg	Ala	Cys	Met	Leu	Val	Arg	Lys	Ala	Ala	Gly
1				5					10				15		

Gly	His	Tyr	Val	Gln	Met	Ala	Phe	Met	Lys	Leu	Ala	Ala	Leu	Thr	Gly
					20			25					30		

Thr	Tyr	Val	Tyr	Asp	His	Leu	Thr	Pro	Leu	Gln	Asp	Trp	Ala	His	Ala
					35			40				45			

Gly	Leu	Arg	Asp	Leu	Ala	Val	Ala	Val	Glu	Pro	Val	Ile	Phe	Ser	Asp
					50			55				60			

Met	Glu	Val	Lys	Ile	Ile	Thr	Trp	Gly	Ala	Asp	Thr	Ala	Ala	Cys	Gly
					65			70			75		80		

Asp	Ile	Ile	Ser	Gly	Leu	Pro	Val	Ser	Ala	Arg	Arg	Gly	Arg	Glu	Ile
					85			90				95			

Leu	Leu	Gly	Pro	Ala	Asp	Asn	Phe	Glu	Gly	Gln	Gly	Trp	Arg	Leu	Leu
					100			105				110			

Ala	Pro	Ile	Thr	Ala	Tyr	Ser	Gln	Gln	Thr	Arg	Gly	Leu	Leu	Gly	Cys
					115			120				125			

Ile	Ile	Thr	Ser	Leu	Thr	Gly	Arg	Asp	Lys	Asn	Gln	Val	Glu	Gly	Glu
					130			135				140			

Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val

145	150	155	160
Asn Gly Val Cys Trp Thr Val Phe His Gly Ala Gly Ser Lys Thr Leu			
165	170	175	
Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln			
180	185	190	
Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Met Thr Pro			
195	200	205	
Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp			
210	215	220	
Val Ile Pro Val Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser			
225	230	235	240
Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu			
245	250	255	
Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr			
260	265	270	
Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Ser Met Glu			
275	280	285	
Thr Thr Met Arg			
290			

<210> 16

<211> 303

<212> PRT

<213> HCV

<400> 16

Ala Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile			
1	5	10	15

Arg Ala Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln		
20	25	30

Met Ala Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp		
35	40	45

Ala Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu		
50	55	60

Ala Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile			
65	70	75	80

Ile Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly		
85	90	95

Leu Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala		
100	105	110

Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala		
115	120	125

Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu  
 130 135 140  
 Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser  
 145 150 155 160  
 Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp  
 165 170 175  
 Thr Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly  
 180 185 190  
 Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp  
 195 200 205  
 Gln Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser  
 210 215 220  
 Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg  
 225 230 235 240  
 Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser  
 245 250 255  
 Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His  
 260 265 270  
 Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys  
 275 280 285  
 Ala Val Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg  
 290 295 300  
  
 <210> 17  
 <211> 301  
 <212> PRT  
 <213> HCV  
  
 <400> 17  
 Ala Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile  
 1 5 10 15  
 Arg Ala Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln  
 20 25 30  
 Met Ala Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp  
 35 40 45  
 His Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu  
 50 55 60  
 Ala Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile  
 65 70 75 80  
 Ile Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Ser Gly  
 85 90 95  
 Leu Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala  
 100 105 110

Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu Pro Ile Thr Ala Tyr Ser  
 115 120 125  
 Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly  
 130 135 140  
 Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala  
 145 150 155 160  
 Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val  
 165 170 175  
 Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile  
 180 185 190  
 Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala  
 195 200 205  
 Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser Ser Asp  
 210 215 220  
 Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg  
 225 230 235 240  
 Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu  
 245 250 255  
 Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val  
 260 265 270  
 Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val  
 275 280 285  
 Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg  
 290 295 300  
  
 <210> 18  
 <211> 303  
 <212> PRT  
 <213> HCV  
  
 <400> 18  
 Ala Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala Gln Gly Leu Ile  
 1 5 10 15  
 Arg Ala Cys Met Leu Val Arg Lys Ala Ala Gly Gly His Tyr Val Gln  
 20 25 30  
 Met Ala Phe Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp  
 35 40 45  
 His Leu Thr Pro Leu Gln Asp Trp Ala His Ala Gly Leu Arg Asp Leu  
 50 55 60  
 Ala Val Ala Val Glu Pro Val Ile Phe Ser Asp Met Glu Val Lys Ile  
 65 70 75 80  
 Ile Thr Trp Gly Ala Asp Thr Ala Ala Gly Asp Ile Ile Ser Gly

85

90

95

Leu Pro Val Ser Ala Arg Arg Gly Arg Glu Ile Leu Leu Gly Pro Ala  
 100 105 110

Asp Asn Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala  
 115 120 125

Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu  
 130 135 140

Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser  
 145 150 155 160

Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp  
 165 170 175

Thr Val Phe His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly  
 180 185 190

Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp  
 195 200 205

Gln Ala Pro Pro Gly Ala Arg Ser Met Thr Pro Cys Thr Cys Gly Ser  
 210 215 220

Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg  
 225 230 235 240

Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser  
 245 250 255

Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His  
 260 265 270

Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys  
 275 280 285

Ala Val Asp Phe Ile Pro Val Glu Ser Met Glu Thr Thr Met Arg  
 290 295 300

&lt;210&gt; 19

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; HCV

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(1)

&lt;223&gt; Asp labeled with anthranilyl

&lt;221&gt; VARIANT

&lt;222&gt; (6)...(6)

&lt;223&gt; Xaa at position 6 is Abu

&lt;221&gt; VARIANT

&lt;222&gt; (6)...(7)

&lt;223&gt; Abu-A between 6 and 7 is C(O)-O

&lt;221&gt; VARIANT

<222> (9)...(9)  
<223> Tyr at position 9 is derivatized with 3-NO2

<400> 19  
Asp Asp Ile Val Pro Xaa Ala Met Tyr Thr Trp  
1 5 10

<210> 20  
<211> 6  
<212> PRT  
<213> HCV  
<220>  
<221> VARIANT  
<222> (1)...(1)  
<223> Asp labeled with anthranilyl

<221> VARIANT  
<222> (6)...(6)  
<223> Xaa at position 6 is Abu

<400> 20  
Asp Asp Ile Val Pro Xaa  
1 5

<210> 21  
<211> 10  
<212> PRT  
<213> HCV  
<400> 21  
Ser Phe Glu Gly Gln Gly Trp Arg Leu Leu  
1 5 10

<210> 22  
<211> 20  
<212> PRT  
<213> HCV  
<400> 22  
Ser Phe Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr  
1 5 10 15  
Ser Gln Gln Thr  
20

<210> 23  
<211> 10  
<212> PRT  
<213> HCV  
<400> 23  
Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr  
1 5 10

<210> 24  
<211> 12  
<212> PRT  
<213> HCV

<400> 24  
Lys Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr  
1 5 10

<210> 25  
<211> 6  
<212> PRT  
<213> HCV

<400> 25  
Ala Pro Ile Thr Ala Tyr  
1 5

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